

Methods for Determining Substantial Damage

Substantial Damage Formula

The criteria for determine substantial damage is the ratio of the cost to repair the structure to its before damaged condition to the market value of the structure prior to the damage.

$$\frac{\text{Cost to Repair Structure}}{\text{Market Value of the Building}} \geq 50 \text{ percent}$$

Cost to Repair

The cost to repair the structure must be calculated for full repair to the building's before-damage condition, even if the owner elects to do less. The total cost must include the cost of donated labor and materials. It must also include the cost of any improvements that the owner has opted to include during the repair project.

1. Materials

The value placed on materials should be:

- Equal to the actual or estimated cost of all materials to be used or considered necessary in repairing all damages sustained by the building.
- No less than that required to restore the building to its pre-damaged condition.

Donated/Discounted Materials

- The value of donated or discounted materials should be adjusted to an amount equal to the estimated market rate.
- Adjustments and estimates should be made by the local permit official based on his/her professional judgment and knowledge of the local or regional cost of construction materials and servicing equipment.

2. Labor

The value placed on labor should be:

- Equal to the actual or estimated labor charge for repair of all damages to the structure.

Donated or Self Labor (Non-reimbursed Labor)

- The value of donated or self labor should be estimated based on applicable minimum-hour wage scales for the type of construction work that is done.
- The estimate should be made by the local permit official based on his/her professional judgment and knowledge of the local or regional wage scales.

Determining Cost

Sources

FEMA accepts the following sources for determining the cost to fully repair a damaged structure:

1. Itemized estimates made by licensed contractors or other professional estimators.
2. For insured structures damaged by floods, the monetary damage estimated by the NFIP claims adjustor (STRUCTURE only, not contents). Claims estimates should be primarily used as screening method to determine if a structure has been substantially damaged.
3. "Qualified estimates" made by local building permit department using professional judgment and knowledge of local and regional construction costs. Methods for making "qualified estimates" are prescribed in handbooks published by building-cost information services such as Marshall and Swift.
4. Building code valuation tables published by the major building code groups. These tables can be used for determining estimates for particular replacement items IF the type of structure in question is listed in the tables.
5. Damage assessment field surveys conducted by building inspection departments, emergency management or tax assessment agencies or other professional State or local officials. Such damage assessments should estimate the total monetary damage sustained to the structure.

Items to Include

The cost of repair after a flood that simply soaked the building will typically include the following structural items:

- Remove all wallboard and insulation
- Install new wallboard and insulation
- Tape and paint
- Remove carpeting and vinyl flooring
- Dry flood, replace warped flooring
- Replace cabinets in the kitchen and bathroom
- Replace built-in appliances
- Replace hollow-core doors
- Clean and disinfect duct work
- Repair porch flooring and front steps
- Clean and test plumbing
- Replace outlets and switches, clean and test wiring

Items to Exclude

Items which may be excluded include:

- Plans and specifications
- Surveying
- Permit fees

- Demolition or emergency repairs made for health or safety reasons or to prevent damage to the building
- Improvements or repairs to items outside the building, such as driveway, fencing, landscaping and detached structures.
- Historic Structures as defined in the community's Floodplain Management Ordinance
- Correcting existing code violations

For a more detailed list of items to be included and items to be excluded, refer to Chapter 12, page 7 of the *Iowa Floodplain Management Desk Reference, 2008*. Also, refer to Chapter 12, pages 22-25 in the *Iowa Floodplain Management Desk Reference, 2008* for additional information on exempting historic structures and correcting existing code violations

Determining Market Value

For the purposes of determining substantial damage, market value pertains only to the structure in question. It does not pertain to the land, landscaping or detached accessory structures on the property. For determining substantial damage, the value of the land must always be subtracted.

Acceptable estimates of market value can be obtained from the following sources:

1. Independent appraisals by a professional appraiser
2. Detailed estimates of the structure's Actual Cash Value (used as a substitute for market value based on the preference of the community)
3. Property appraisals used for tax assessment purposes (Adjusted Assessed Value may also be used as a screening tool)
4. Value of buildings taken from NFIP claims data (may also be used as a screening tool)
5. "Qualified estimates" based on sound professional judgment made by staff of the local building department or local or State tax assessor's office.

Replacement cost may NOT be substituted for market value when determining whether a structure was substantially damaged.

Sources

Iowa Floodplain Management Desk Reference, January 2008

FEMA 213, Answers to Questions About Substantially Damaged Buildings, April 1991